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CORRESPONDENCE.

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RELIEF TO THE JEANNETTE.

To the Editor of "SCIENCE:"

In compliance with your request concerning my views of the present probable status of the *Jeannette*, and especially the subject of a relief party to be sent to her, I would state that not desiring to renew at length the reasons set forth in the New York *Herald*, of January 12th, I will confine myself mainly to the few but important motives which point to the necessity of such a step in so far as they concern the interest of science. The urgency of immediate succor has been so thoroughly dwelt upon by yourself and others interested, that it can receive but little addition at my hands; suffice to say that the greater majority of Arctic accidents to naval expeditions, which would demand assistance, are of a violent character, such as wreck, ice-pressure, besetment and abandonment, etc., and which show plainly that rescue here, like that in all other zones, must be immediate to be effective in such emergencies. Also the necessity of replenishing the weakened portion of DeLong's crew, should they have been unfortunate in securing a sufficient supply of fresh meat can not be too strongly presented, for such a circumstance might fatally compromise an otherwise successful termination of the voyage, and just at the critical period of the undertaking. In a scientific point of view the field entered by the *Jeannette*, and which would be entered by her relief ship (which should carry a full and complete scientific corps) is one of the most interesting character. Nearly all of the Arctic estuaries of the Atlantic, have been more or less covered by the scientist and their fields of geography, physical and otherwise, their geology and mineralogy, their fauna and flora and many other kindred and interesting sciences, form huge volumes in the many libraries accessible to the student of these various topics, but on the Pacific side the many branches of science there presented form a vast field of investigation and research almost yet untrodden. That Lieutenant De Long's expedition could circumscribe, even in outline, this great theatre of undeveloped scientific resources is clearly impossible, and there have been but few predecessors along his route to show anything of value to those most deeply interested.

Every civilized nation has taken a public pride in bringing to light all the scientific knowledge attainable, pertaining to its own domain and its adjacent waters, acknowledging defeat and chagrin where it has been left to those differing in blood and allegiance to accomplish. It is only the savage, the barbarian, and semi-civilized community, that can allow these peaceful invasions without patriotic mortification or national chagrin. The Pacific Polar Seas are adjacent to the colonies of our own country and those of Russia. The latter has no great seaports or readily available fitting points in her Pacific coast whence an expedition may sail. With us, on the contrary, our Occidental shores are studded with goodly sized cities, one of which for such a purpose is as perfect as any in the world. It is therefore the plain duty of America to harvest this field, at least, even if the grain must be sent abroad to be ground.

It has also been proposed to establish permanent stations in the Arctic for scientific purposes, all nations uniting, forming a grand international chain, whose united observations will settle many disputed, and probably bring forth and illustrate many new, theories in the science of these zones, especially in the domain of meteorology, where continuous observations are so essential. To cover the Alaskan coast would be the least that

could be expected of us, and it is not at all doubtful but that the British American shores belonging more peculiarly to us, by reason of contiguity, than to Great Britain, by reason of colonial possession, would be partially assigned to us, at least in this scheme. The relief party sent to the *Jeannette* could found this little colony, herself make extended investigations, and subserve the purpose of humanity by rescuing or relieving an expedition of our own countrymen under our own flag.

In all cases of abandonment of vessels in Arctic waters, the scientific collections have necessarily been left, as nothing should burden the retreating crews, except absolute necessities, in a race for life where every ounce of weight is of vital importance, and these collections are almost as good as lost when only feebly represented by their descriptions and imperfect sketches. Such has been the fate of so many collections, rendering the voyage, in a scientific sense, almost *nil*, so that the rescue of an expedition, with such facilities of research, should meet the hearty encouragement of every scientist of America.

F. SCHWATKA.

GOVERNOR'S ISLAND, NEW YORK HARBOR,
January 29, 1881.

HYPNOTISM.

To the Editor of "SCIENCE:"

I doubt not that many of the readers of "SCIENCE" who attended the recent lecture of Dr. Beard, before the New York Academy of Sciences, will be surprised to read the article which you have published on page 13, Vol. II. It is not my purpose in this letter to defend the position of Dr. Beard in this matter, for if he deems it necessary I have no doubt he will give a satisfactory explanation of the few minor points which have given rise to your suspicions as to the genuineness of the phenomena. The circumstance of the person who was rendered deaf, and who was roused from his trance in the surprising manner which you describe, likewise aroused some questions in my own mind, as did also one or two other experiments; but instead of selecting these as a basis for adverse criticism, it has seemed to me more in accord with scientific methods to first inquire what explanation of them Dr. Beard himself can give.

The question before the general scientific world is not whether we can pick out single points for criticism, but whether the phenomena, as a whole, are genuine. The study of trance is not one with which most of us can claim familiarity, and although it is one which, more than almost any other, demands very special training to enable a person to profitably investigate the phenomena, we seldom find a person, even among scientific men, who has not his own ideas or theories or explanations about it. For this reason, Dr. Beard's careful study of the subject probably will not be fully appreciated during this, in some respects, conservative generation. Physical phenomena may be tested and abstruse hypotheses framed to explain them, and the world will accept the explanation; but in matters of trance, the clearest demonstrations cannot shake deep-seated beliefs, or convince unreasoning skeptics.

What has been the attitude of scientific men in the past toward this subject? It has been one of disbelief and nothing more. It is true that many of the phenomena (not all of them) have been known for many years. Your statement, however, that "nearly all our present knowledge of the subject dates from Braid's book" was directly contradicted by Dr. Beard in his lecture. Your assertion is only true of the phenomena. Dr. Beard's object was not to give an amusing exhibition of the phenomena of trance before a scientific body, but to explain them; the experiments being merely illustrative of the subject. I have still another criticism to make. You have assumed that "two of the subjects were evidently trained performers, if not professional actors." Admitting this

mere supposition, to be true, what possible bearing can it have upon the result? Why should not professional actors be as good subjects as any other persons? This objection seems to me about on an equality with some others which I have heard, *e. g.*, that all the subjects were trained to perform to suit the occasion. Your assertion that "the subjects of Dr. Beard are selected from the nervous classes of our population," is in direct contradiction to the doctor's declaration. In no sense can I regard your criticism as quite fair. Moreover, you have neglected to mention two of the most convincing demonstrations of the reality of the phenomena,—I refer to the extraction of two teeth from one subject, and the application of actual cautery to another. The opinion seems to be very common that the phenomena of mesmeric trance cannot be genuine unless all persons can be brought under its influence. A very little reflection will show that this is an erroneous opinion. There is much more that might be said upon the subject, but my purpose is only to correct the erroneous impressions which I am sure your article will give to many readers. I hope the columns of "SCIENCE" will be held open for a free discussion of these phenomena. R. HITCHCOCK.

To the Editor of "SCIENCE":

In Dr. Spitzka's suggestive "Notes on the Anatomy of the Encephalon, etc.," in "SCIENCE," No. 29, occurs the following passage:

"Now, the third ventricle, as shown by Hadlich and Wilder, extends over the entire thalami."

I regret to be obliged to make a correction. The passage contains two distinct statements: the one, that the third ventricle extends over the entire thalami, and the other that such was shown to be the case by Hadlich and myself.

Since upon this point—as upon all others presented in the article—no exact references are given, I will not speak now of Hadlich's views; but no such statement has ever been made by me, and I am at a loss to understand how Dr. Spitzka can have gained that impression. On the contrary, my paper "On the Foramina of Monro in the Domestic Cat," read at the Boston meeting of the A. A. S., but not yet published, included an expression of my belief that, in the cat, the dorsal limit of the third ventricle on each side corresponds with the *Habena*, (the so-called "peduncle of the pineal body,") along which the *Endyma* (the lining membrane of the ventricles), is reflected from the mesial surface of the thalamus toward the opposite side. Hence, only the mesial aspect of each thalamus is "in the third ventricle," the remaining and much larger part of the surface being wholly extra-ventricular.

BURT G. WILDER.

ITHACA, N. Y., January 26, 1881.

BOOKS RECEIVED.

BULLETIN No. 3 of the Illinois State Laboratory of Natural History at Normal, Ill., is a pamphlet of 160 pages, containing papers by the Director of the Laboratory, Prof. S. A. Forbes, on the following subjects: On some Interactions of Organisms; The Food of Fishes; Acanthopteri; On the Food of Young Fishes; The Food of Birds; Notes on Insectivorous Coleoptera. Likewise a brief but significant paper—Notes upon the Food of Predaceous Beetles, by Mr. F. M. Webster, who has independently come to the same conclusion as Prof. Forbes that the Carabidæ, in place of being exclusively insectivorous as is generally supposed, can, and in fact do, derive considerable sustenance from grains, grasses, and other vegetable substances.

The instructiveness and practical as well as scientific value of the researches which form the basis of these papers may be inferred from their titles, and from Prof.

Forbes' well known accuracy and enthusiasm. But they are also very interesting and entertaining reading, and will thus be more apt to reach the minds of many who would otherwise fail to profit by the stores of information they contain. It would be well for other states to make the slight provision required for carrying on similar investigations into the food habits of the Birds, Fishes and Insects found within their limits.

B. G. W.

CHEMICAL NOTES.

DETECTION OF IODINE IN BORMINE AND METALLIC BROMIDES.—A few drops of the bromine in question are placed in a small porcelain capsule, 30 c.c. of a solution of potassium chlorate, saturated in the cold, are added, and the liquid is boiled till colorless. The solution is then poured into a test-tube, allowed to cool, mixed with a few drops of a solution of morphine sulphate and a little chloroform. If the chloroform takes a violet color, iodine is present in the sample. The morphine solution is prepared by dissolving 0.5 gm. morphine in an excess of dilute sulphuric acid, and diluting to 50 c.c. In examining potassium bromide the solution is mixed with 2 or 3 drops of pure bromine water, and a few c.c. of a cold saturated solution of potassium chlorate, and further treated as above. —A. JORISSEN.

DETERMINATION OF SULPHUR IN IRON PYRITES.—On oxidizing pyrites with nitric acid and precipitating the sulphuric acid from the ferriferous solution, slightly acidified with hydrochloric acid, there is always obtained a barium sulphate, contaminated with iron, and still the results were too low. The following process is, therefore, adopted: 1 gm. pyrites was mixed in a large covered crucible with 8 grms. of a mixture of equal parts potassium chlorate, sodium carbonate, and sodium chloride. The crucible is heated at first gently so as to dry the contents, which are afterwards melted at a high temperature. The mass when cold is treated with boiling water, and the solution together with the deposit is introduced into a measuring-flask of 200 c.c. filled up, filtered, and the sulphuric acid is determined in aliquot parts, say 50 c.c. The insoluble residue does not retain any sulphuric acid. In this manner the use of nitric acid is evaded. The decomposition of the potassium chlorate is complete. —BERNHARD DENTECON.

CONTRIBUTION TO ELECTROLYSIS.—L. Schucht describes the electrolytic determination of uranium, thallium, indium, vanadium, palladium, molybdenum, selenium, and tellurium. For qualitative analysis he uses a strong test-glass, 10 to 12 c.m. high, and 1.5 c.m. wide, fitted with a cork coated with paraffin. Two platinum wires, 1½ m.m. in thickness, pass through the cork down to the bottom, and are connected above the cork with the polar wires of the battery by means of small binding screws. This decomposition tube may be held in a wooden clamp. After the current has passed through the solution to be analyzed for ten to fifteen minutes, the stopper with the wires is drawn out, without interrupting the current, and the deposited metal is determined by its color, lustre, solubility in acids, &c. The manner of decomposition and the slight or strong evolution of gas is noticed. The solution is completely precipitated, rendered alkaline, and again electrolysed, after the wires have been cleansed. Copper is recognised by its color, mercury by the precipitated globules, nickel and cobalt by their lustre and sparing solubility in acids, zinc and cadmium by their color and solubility in potassa. The formation of peroxides is characteristic for lead, silver, bismuth, thallium, manganese. Bismuthic acid is gradually formed, whilst the peroxides of lead, silver, and thallium are deposited at the beginning of the precipitation. Silver peroxide dissolves in ammonia with liberation of nitrogen. The decomposition of the alkalis and alkaline earths is best effected in a U-tube. The hydroxides of the latter are separated in a voluminous form; those of calcium and magnesium in white crusts. The hydroxides of barium, strontium, and the alkalis dissolved on the negative wire, *Berg-und Hütten Zeitung*, 39, 121.